APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/840,399	04/23/2001	Jacobus Haartsen	040071-510	4491

7590 02/07/2005	EXAMINER
Ronald L. Grudziecki	TRINH, TAN H
BURNS, DOANE, SWECKER & MATHIS, L.L.P.	

ART UNIT	PAPER NUMBER
2684	

P.O. Box 1404
Alexandria, VA 22313-1404

DATE MAILED: 02/07/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) FROM
THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed
  after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any
  earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>22 July 2004</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is
closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-31</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-31</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>23 April 2001</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All　b)☐ Some * c)☐ None of:

　　　1.☐ Certified copies of the priority documents have been received.

　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage
application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)
2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3)☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
　　Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.
5)☐ Notice of Informal Patent Application (PTO-152)
6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the

basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

2.   Claims 1-2, 13, 16-17 and 30-31 are rejected under 35 U.S.C. 102(e) as being anticipated

by Le Strat (U.S. Patent. No.6646995).

Regarding claims 1 and 16, Le Strat teaches a method for synchronization in radio

communication systems (see fig. 1, col. 8, lines 39-57), the method comprising the steps of:

encapsulating symbols in an information stream (see col. 3, lines 41-59); Le Strat inherently

teaches modulating the information stream (see col. 3, lines 41-59, since when the mobile station

transmission the information is modulating the information with the carrier), sending the

modulated information stream with a first robustness level over a communication channel (see

col. 4, lines 34-52); and reducing the level of robustness of the information stream to a second

robustness level according to a predetermined function (see col. 4, lines 34-67).

Regarding claims 2 and 17, Le Strat inherently teaches the step of: dividing the

information stream into a plurality of segments (see col. 5, lines 60-67 and col. 6, lines 55-65).

Regarding claim 13, Le Strat inherently teaches the steps of: receiving the modulated

information stream from the communication channel and demodulating the information stream

after a first number of symbols have been received (see figs. 1 3A-C and 12, col. 1, lines 33-52,

since when the mobile station transmission the information is modulating the information with

the carrier and received the information is demodulation), wherein the first number of symbols is

less than a second number of symbols (see col. 1, lines 46-61), that would have to be received to

demodulate a corresponding information stream sent over the communication channel only at the

second robustness level (see col. 4, lines 24-67).

Regarding claim 30, Le Strat teaches an apparatus for synchronization in radio

communication systems (see fig. 1, col. 8, lines 39-57), Le Strat inherently teaches: a receiver for

receiving a modulated information stream with a first robustness level sent over a

communication channel and then reduced the to a second robustness level according to a

predetermined function (see col. 4, lines 24-67); and a demodulator for demodulating the

information stream after a first number of symbols have been received (see figs. 1 3A-C and 12,

col. 1, lines 33-52, since when the mobile station transmission the information is modulating the

information with the carrier and received the information is demodulation) wherein the first

number of symbols is less than a second number of symbols (see col. 1, lines 46-61), that would

have to be received to demodulate a corresponding information stream sent over the

communication channel only at the second robustness level (see col. 4, lines 24-67).

Regarding claim 31, Le Strat teaches a system for synchronization in radio

communication systems (see fig. 1, col. 8, lines 39-57), Le Strat inherently teaches: logic that

encapsulates symbols in an information stream (see col. 3, lines 41-59); a modulator for

modulating the information stream (see col. 3, lines 41-59, since when the mobile station

transmission the information is modulating the information with the carrier) a transmitter for

sending the modulated information stream with a first robustness level over a communication

channel (see col. 4, lines 34-52), logic that reduces the level of robustness of the information

stream to a second robustness level according to a predetermined function (see col. 4, lines 34-

67), a receiver for receiving the modulated information stream from the communication channel

(see col. 4, lines 24-67); a demodulator for demodulating the information stream after a first

number of symbols have been received (see figs. 1 3A-C and 12, col. 1, lines 33-52, since when

the mobile station transmission the information is modulating the information with the carrier

and received the information is demodulation), wherein the first number of symbols is less than a

second number of symbols (see col. 1, lines 46-61), that would have to be received to

demodulate a corresponding information stream sent over the communication channel only at the

second robustness level (see col. 4, lines 24-67).

Claim Rejections - 35 USC § 103

3.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in
> section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are
> such that the subject matter as a whole would have been obvious at the time the invention was made to a person
> having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the
> manner in which the invention was made.

4.   Claims 3-4, 14-15, 18-19 and 28-29 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Le Strat (U.S. Patent. No.6646995) in view of Boyden (U.S. Patent No.

6,724,737).

Regarding claims 3 and 18, Le Strat teaches the Bit Error Rate (BER) and coding to a

plurality of segments in the information stream using at least two different coding rates (see col.

2, lines 23-28); and varying the coding rates among the plurality of segments to change the

robustness of the information stream from the first robustness level to the second robustness

level (see col. 2, lines 23-28 and col. 4, lines 28-67). But Le Strat fails to teach the adding

Forward Error Correction (FEC).

However, Boyden teaches the adding Forward Error Correction (FEC) (see col. 7, lines

30-44).

Therefore, it would have been obvious to one of ordinary skill in the art at the time

invention was made to modify Le Strat system and by providing of the teaching of Boyden on

the FEC technique so that the symbol blocks are received that are either heavily or light encoded

using a more or less of robustness level (see col. 7, lines 33-35).

Regarding claims 4 and 19, Boyden teaches wherein the plurality of segments to which

the FEC coding is added includes a segment adjacent to where a demodulation of the information

stream begins (see col. 7, lines 29-63).

Regarding claims 14 and 28, Le Strat teaches data communications. But Le Strat fails to teach wherein the information stream is comprised of packets.

However, Boyden teaches wherein the information stream is comprised of packets (see col. 3, lines 31-65).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Le Strat system and by providing of the teaching of Boyden on data packets technique so that the data packet is measured and compared to the reference transmission quality level and provide user with the robustness of the transmitted information.

Regarding claims 15 and 29, Boyden teaches wherein the packets comprise a training sequence (see figs. 1 and 3, col. 7, lines 9-29).

5.   Claims 5-10 and 20-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Le Strat (U.S. Patent. No.6646995) in view of Amalfitano (U.S. patent No. 6,545,990).

Regarding claims 5 and 20, Le Strat inherently teaches wherein the step of modulating the information stream comprises the steps of: modulating a plurality of segments in the information stream (see col. 2, lines 23-28 and col. 3, lines 41-59); and varying the modulation schemes among the plurality of segments to change the robustness of the information stream from the first robustness level to the second robustness level (see col. 2, lines 23-28 and col. 4, lines 28-67). But Le Le Strat fails to teach using at least two different modulation schemes.

However, Amalfitano teaches using at least two different modulation schemes includes a segment adjacent to where a demodulation of the information stream begins (see figs. 4 and 6, col. 4, lines 5-24 and line 65-col. 5, line 3).

Therefore, it would have been obvious to one of ordinary skill in the art at the time invention was made to modify Le Strat system and by providing of the teaching of Amalfitano on the modulation schemes technique thereto in order to provide user with different modulation schemes in communications.

Regarding claims 6 and 21, Amalfitano teaches using at least two different modulation schemes includes a segment adjacent to where a demodulation of the information stream begins (see figs. 4 and 6, col. 4, lines 5-24 and line 65-col. 5, line 3).

Regarding claims 7 and 22, Amalfitano teaches wherein the step of encapsulating symbols comprises the step of: adding Forward Error Correction (FEC) coding to at least one segment in the information stream (see fig. 5, col. 6, lines 56-67) wherein the varying of the modulation schemes and the adding of FEC coding change the robustness of the information stream from the first robustness level to the second robustness level (col. 7, lines 22-col. 8, line 22).

Regarding claims 8 and 23, Amalfitano teaches wherein the step of encapsulating symbols comprises the steps of: adding Forward Error Correction (FEC) coding to a plurality of segments in the information stream using at least two different coding rates (see col. 6, lines 46-

67), and varying the coding rates among the plurality of segments; wherein the varying of the

modulation schemes and the varying of the coding rates change the robustness of the information

stream from the first robustness level to the second robustness level (col. 7, lines 22-col. 8, line

22).

Regarding claims 9 and 24, Amalfitano teaches wherein the pluralities of segments

among which the modulation schemes vary and the plurality of segments among which the

coding rates vary are different pluralities of segments (see fig. 5, code rate select 60 and code

rate 442-4, col. 6, lines 56-67).

Regarding claims 10 and 25, Amalfitano teaches wherein the plurality of segments

among which the modulation schemes vary and the plurality of segments among which the

coding rates vary are the same plurality of segments (see col. 6, lines 56-67 and col. 7, lines 1-

12).

6.   Claims 11-12 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Le Strat (U.S. Patent. No.6646995) In view of Kodama (U.S. Patent No. 5,416,787).

Regarding claims 11 and 26, Le Strat teaches the robustness level is changed from the

first robustness level to the second robustness level (col. 7, lines 22-col. 8, line 22). But Le Strat

fails to teach the steps of: encoding the information stream using convolutional coding at a first

coding rate; puncturing the encoded information stream; and varying a rate at which the encoded

information stream is punctured to achieve a second coding rate.

However, Kodama teaches teach the steps of: encoding the information stream using

convolutional coding at a first coding rate (see fig. 8, and col. 2, lines 9-39); puncturing the

encoded information stream and varying a rate at which the encoded information stream is

punctured to achieve a second coding rate (see col. 12, line 50-col. 13, line 2).

Therefore, it would have been obvious to one of ordinary skill in the art at the time

invention was made to modify Le Strat system and by providing of the teaching of Kodama on

the convolutional code technique, thereto in order to reduce the decoding delay time.

Regarding claims 12 and 27, Kodama teaches the puncturing of the encoded information

stream occurs adjacent to a portion of the information stream where a demodulation of the

information stream begins (see col. 12, line 63-col. 13, line 2).

Conclusion

7.   The prior art made of record and not relied upon is considered pertinent to applicant's

disclosure.

Shahar (U.S. Pub. 20030002495) discloses adaptive downstream modulation scheme for

broadband wireless access systems.

8.   **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 872-9314, (for Technology Center 2600 only)

*Hand-delivered responses should be brought to Crystal Park II,
2121 Crystal Drive, Arlington. VA., Sixth Floor (Receptionist).*

9.   Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Tan Trinh whose telephone number is (703) 305-5622. The

examiner can normally be reached on Monday-Friday from 9:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Nay Maung, can be reached at (703) 308-7745.

The fax phone number for the organization where this application or proceeding is

assigned is 703-872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding

should be directed to the **Technology Center 2600 Customer Service Office** whose telephone

number is **(703) 306-0377.**

10.   Information regarding the status of an application may be obtained from the Patent

Application Information Retrieval (PAIR) system. Status information for published applications

may be obtained from either Private PAIR or Public PAIR. Status information for unpublished

applications is available through Private PAIR only. For more information about the PAIR

system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Tan H. Trinh
Art Unit 2684
Feb. 01,2005

NICK CORSARO
PRIMARY EXAMINER